

# Lake Winnipeg is the 10<sup>th</sup> largest fresh water lake in the world.



- At first glance the sun rises like every day across the 18 miles of the south basin from Gimli to Victoria Beach.
- This is where my family enjoys our morning coffee, where we have been a very proud part of the lake district for my entire 52 years.

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- We enjoy canoeing, fishing, running into the waves.
- We all enjoy the squalls of Lake Winnipeg Fame.
- We share a mutual respect for the history of the lake and it's heritage.

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- My father-in law, a retired Dean of Science from the U of M, participates in our annual “Mizzen Mast” flag pole raising ceremony where we fly all the flags of our heritage and various sailing cruises up the lake.
- The “Triskele”, Lake Winnipeg’s longest sail boat, was my wife’s family touring Ketch.

# Overloading of Nutrients



- The truth is that Lake Winnipeg suffers from numerous sources of nutrient loading with Phosphorus and, to a lesser extent Nitrogen, at the fore.
- There are countless sources contributing to this problem, from urban and rural areas alike.

# Third largest watershed in North America



- With a 39:1 water shed to surface area ratio, we have water flowing from as far away as the Rockies, and the Continental Divide to the south.
- Almost 1,000,000 sq kms.
- The Northern states, agricultural land and major cities along the waterways, contribute significantly to the nutrient loading ultimately discharged into the south basin.

# Marine Biologists have determined that there are 60 inflow rivers and major streams.



- Winnipeg River represents 45% of total flow.
- Saskatchewan River represents 26% (north Basin)
- Red River represents 11% of the total.
- There is only one outflow...The Nelson and it has a few added impairments reducing the flushing rate.(Hydro)

# Phosphorus loading



- Research has demonstrated that @64% total P is expelled through the Red River system.
- 13% from the Winnipeg River.(Main nitrogen source)
- 5% from the Saskatchewan River
- Algal blooms (Phytoplankton) and photosynthetic process need Phos to grow.

# Phosphorus loading



- In years where water levels are reduced like 2006, the photosynthetic capabilities are enhanced.
- Eutrophication has accelerated to be the highest over all the Canadian major lakes.
- Producing summer Chlorophyll “A” in large quantities.



# Lake Winnipeg Research Consortium



- Aboard the retired Coast Guard cutter, “The Namao”, the Lake Winnipeg Research Consortium samples 60 sites, three times per annum to monitor Cyanophyte (Blue Green) growth.
- This has created a reduction of bio-diversity, and a decline in the health of the lake’s ecosystem.

# O2 levels have been dropping since 2003



- When the algae decays it sinks to the bottom, destroying the Zoobenthos (marine organisms residing in the lake bed.)
- Research charted since 1969 (Species/Crustations)
- This creates Hypoxic or “Dead Zone”

# The data is compelling and we can all do something about the problem!



- Whether agriculture based or from normal urban fertilization, detergents or other sources, we all contribute to the Lake Winnipeg degradation.
- The good news is we can all be part of the solution.

# Economic and Environmental Balance



- \$580 Million Hydro Electricity output
- \$50 Million Tourism
- \$20 Million Fisheries Industry
- Environmental stewardship for our children's future.

# Let's stop Casting Aspersions!



- Our hog producers are among the most strident of land stewards, following waterway set-back and spread regulations.
- They work with industry officials to ensure they are doing their part to meet, or exceed all guidelines.
- They recognize that agriculture is a contributor to the problem, but also are willing to be part of the solution.

# Lake Winnipeg Research Consortium

- Website and general fact/data information
- Local information days at Victoria Beach Harbor, Hecla, and Gimli Harbor.



# The Lake is “Sick”!



- Colin McNairnay, a local Manitoba Conservation officer wrote a song to promote awareness at a “Child’s comprehension level.
- The song, “I Like Fish” has received local notoriety by “Namao” crew and fisherman abound.

# LWRC Vessel Namao



- The time is now to work together as Manitobans in both urban and rural initiatives to do our part for the future of this magnificent body of fresh water.